THE EXTENSION HORTICULTURIST

January 1, 1923.

In planning our work for the New Year, let us choose the big needs of our states and emphasize them without neglecting the factors that go to make a balanced program, but curtailing the personal service feature once so prominent in demonstration work. Let us also stress cooperation between farmers and merchants, druggists, manufacturers, bankers and all business interests touching farm life. If we can make the New Year one of closer cooperation between farm and business interests, we will accomplish something worth while.

Office of Horticultural and Pomological Investigations
and States Relations Service Cooperating,
U. S. Department of Agriculture,
Washington, D. C.

A HAPPY AND PROSPEROUS NEW YEAR TO ALL

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Progress in horticultural extension work has marked the calendar year of 1922 in many ways. Emergency activities established during the war period have practically all been discontinued and the work is now upon a more nearly normal basis. It has taken a long time to bring specialists and the people to realize that efficient demonstration service cannot be maintained on a personal service basis and that the work must be on an organized basis. In years past the efficiency of an extension specialist was measured largely by the number of days he spent on the road, the miles traveled, the number of meetings held. the letters written, and a number of other things of like nature. In the future the efficiency of the specialists will be measured in just the opposite terms. In other words, the specialist who is doing the most effective work will be the one who has his state so well organized that county agents, home demonstration agents, club leaders, community chairman and other local leaders are conducting the work under his training and direction. There need be no fear that by this method the specialist is going to "work himself out of a job" for he will become more and more a trainer of leaders bringing the work closer to the farm home.

Definite progress has been made during the past year in the formation and perfection of spray rings, pruning demonstrations extending over a period of years, strawberry club work, potato seed certification, sweet potato storage,sweet potato seed selection and certification, fertilizer work with orchards and small fruits, commercial orchard planting in the southeastern states, orchard cover crop work, variety adaptation work, manure economy work, and cooperative packing and selling of fruits and vegetables.

Among the lines of work suggested for the future are the establishment of closer relations between farmers and business interests, development of cooperation in local fruit sales from farm orchards and cooperation with nutrition specialists in the production and use of fruits and vegetables. There are 10,400,000 farm boys and girls in the United States who have never had any club work, only 600,000 having been reached. Here is a splendid field for the development of orchard and small fruit clubs, asparagus, potato, and other vegetable clubs, and flower clubs. The work of improving farm home surroundings should also be given special emphasis. In states where home orchard planting is being pushed the demonstrations should, in our judgment, be limited to the actual home needs of the family rather than with the idea of growing a surplus to sell. Where existing home orchards are in excess of the family needs, cooperative selling of the surplus seems to be the logical solution.

As the horticultural extension work here in the Department is now organized, Prof. Close is on full time extension, mainly on fruits and small fruits. Mr. Beattie is part time extension work, mainly with vegetables, but doing fruit work in the Southern States. Mr. Mulford, landscape specialist, Prof. Stuart, potato specialist and others of the horticultural investigational force are available for special extension work. Delay in arranging for the services of any of these men will be avoided by addressing communications to Prof. A. B. Graham, In Charge Division of Methods, States Relations Service. Letters sent to heads of the various offices are frequently delayed in reaching the proper authorities who must act upon such requests. Yours for the good of the service, - Editors.

Reports from State Specialists.

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Michigan.

The following brief summary of fruit extension work in Michigan was received from Mr. T. A. Farrand, Fruit Specialist:

The major project in fruit growing for the past two years has been demonstrating the value of commercial fertilizers in connectionwith their use on all kinds of fruits and also the effect on cover crops and stimulating interest in a general cover cropping system with the growing of bush fruits, grapes, and all other orchard fruits where cultivation is practical; also demonstrating the most economical system of supplying plant food to orchards located on hilly sites where seeding the orchard to alfalfa, clover, or some other crop, is necessary to stop erosion. Along with this major project the general lines of extension work in spraying, pruning surveys, locating orchards and vineyards in new areas, have been carried on.

An important project was started during the summer in relation to raspberry disease control. A two-day survey was made in Berrien and Van Buren Counties where disease conditions were noted in a large number of plantations. There were a number of specialists from the Washington office and from the different departments at the Michigan Agricultural College. The importance of this industry in the State and its rapid increase in acreage, with the disease conditions found, were discussed at a meeting following the survey and it was considered very important that some organized effort be made for a rigid inspection and roguing out of diseased plants saving not only the plantation, but also lessening the spread of diseased plants to new areas.

A standard list of varieties of apples for commercial planting in Michigan was prepared and is being generally adopted. This is very important considering the large plantings of apple orchards which is taking place.

The orchard and fruit fertilization project created widespread interest among fruit growers throughout the State and the use of commercial fertilizers has narrowed down to a general use of nitrates either in the form of nitrate of soda or sulphate of ammonia, the latter form being used very largely by the growers.

The extension department and experiment station cooperating, commercial fertilizers were furnished growers through the county agents in 12 counties for experimental demonstrations. Some records of yields and observations on a large number of demonstrations with field meetings at these, and a large number of demonstrations by growers and county agents, andthe results of other experiments carried on by the experiment station, created such a demand that it exhausted the supply of all available nearby nitrates by May 1, 1922, and large quantities in addition would have been used had they been available for use at that time.

The Michigan State Horticultural Society, through its meetings and automobile tours, with its large attendance of growers from 30 counties and a number of county agents on the program giving results of work in

their counties, has proved very effective help in the extension program and the results of the efforts of all these agencies working together has increased the use of nitrates on fruit crops from a few tons in 1920 to a conservative estimate of 2,000 tons in 1922.

The real value in profits from increased yields and the accumulative effects on the increased vigor of the plants and trees can hardly be estimated.

The same forces and methods which have proved so effective with this project can be used in other extension work.

New York.

The following report on the vegetable extension work in New York State was received from F. O. Underwood and R. M. Adams, Extension Specialists:

In accordance with the request contained in the November "Extension Horticulturist," we are making a brief report of the extension activities of the Department of Vegetable Gardening during the season of 1922. Work with fruit growing is handled by the Department of pomology, while that of flowers and landscape gardening is under the direction of the Department of Floriculture.

Extension activities in Vegetable Gardening at the State College of Agriculture are directed along the following lines: Commercial gardening, school and home gardening, and cash crops, including potatoes, cabbage and field beans.

Two full time extension men are employed, R. M. Adams handles the work with juniors and home gardeners. Since the resignation of J. R. Bechtel, December 1, 1921, as Extension Specialist, this position was open until the appointment of F. O. Underwood on October 1, 1922. Other members of the staff devote a small part of their time to extension activities during the year.

For the commercial growers, the extension activities carried on consisted of lectures, extension schools and demonstrations pointing out improved methods. Not as extensive a program was carried on during the past as in previous seasons, due to the fact that no one was able to devote sufficient time to the work.

The value of better seed or seed of known origin has been pushed by strain and variety tests. Very successful demonstrations were conducted in the two cauliflower districts in this State during the past season. Similar work with cabbage was carried on in 5 counties, as well as strain tests of muck land crops in 3 counties.

Based upon experiment work in this State and elsewhere, fertilizer demonstrations were carried on with a few growers on muck soils to show improved fertilizer mixtures for the important crops, such as lettuce, onions and celery. In cooperation with the farm bureaus in 5 counties, auto tours and field meetings were held and visits made to the demonstrations.

During the coming season, the major lines of activities to be pushed will be (1) to encourage standardization through grading of vegetables, (2) the use of better seed, (3) demonstrations to secure better canning crops, (4) fertilizer demonstrations for muck soils and special crops, (5) wider use of improved or certified seed potatoes, (6) demonstrations on the size of seed piece and rate of planting of seed potatoes.

The junior projects or boys' and girls' clubs in which this department is especially interested are those in gardening and in corn, bean and potato production. The corn and bean project workers are relatively few. The bean project emphasizes especially the use of the Robust type of small, white beans and the Wells type of red Kidneys. The corn project includes some pop corn, mostly for home use. Project workers are encouraged to try early dent varieties in some sections where flint is very generally grown but where dent is thought to be well adapted.

The potato project looks first of all to the use of better seed either certified seed or seed from some stock otherwise known to be relatively free from disease. Other points brought out are seed treatment, spraying or dusting, and field selection of seed for the next season.

The garden project emphasizes especially the production of those vegetables most needed in the diet, such as tomatoes, carrots, green beans and the leaf vegetables.

Home garden extension work with adults has received added impetus recently from a cooperative arrangement with the school of home economics by which they have arranged a tentative vegetable consumption budget per per person per year and the Department of Vegetable Gardening has planned a garden to produce the crops set forth in the budget. Prof. Adams expects to spend the greater part of March giving to local nutrition groups of the home bureaus, garden talks based upon this plan. It is realized that the figures both for consumption and production of vegetables, are merely rough averages, but it is believed that a home garden may be planned more intelligently in this way than in any other.

West Virginia.

The following letter dated November 25 was received from Mr. T. D. Gray, Horticultural Specialist, Morgantown, West Virginia, too late for inclusion in the December number:

The major projects this year have been outlining and carrying out a complete seasons program in 19 demonstration orchards located in 7 counties of the State. The orchards ranged in size from 3 to 80 acres, most of them being commercial or semi-commercial orchards. Demonstrations in pruning were given, a definite spray schedule outlined, fertilization and cultivation practices recommended and carried out with supervisory assistance from the Extension Specialist. Field meetings were held during the summer to acquaint the growers with the results being obtained. No definite results could be had in many instances due to the late spring freeze which destroyed the fruit.

The third season of the Inwood Packing House, under the supervision of

Mr. H. W. Prettyman, was very successful with a pack of approximately 10,000 barrels. "Johnny Appleseed" brand apples have established such a reputation that they sold above a slow, dull market and 3 to 4 weeks ahead of the pack. One grower packing as good grade under private brand discovered that "Johnny Appleseed" so consistently topped him on the same market that he finally got permission to pack the remainder of his crop under that brand. Every indication points to the extension of the brand to other cooperative packing houses of the State during the coming season.

Mr. Dee Crane carried through the potato extension work organizing 11 spray rings in 5 counties. This included 58 farmers with a total of 295 acres. Checks obtained on one farm show the following:

	Unsprayed	Sprayed
No. 1	42 bushels	127.6
No. 2	47 "	38.0

Estimating the value ofNo. 1 at $1.00 per bushel and No. 2 at 50¢ per bushel, a balance of $82.10 is shown in favor of the sprayed potatoes.

Landscape gardening, which consisted principally of plans for planting around schools, public buildings and homes used for demonstration purposes, was carried on through the home demonstration agents. Farm women's club meetings were held in each community where work was done and lessons taken up on arrangement and planting of trees, shrubs and flowers. This is the first year of thiswork and already it has grown faster than it can be followed up.

Spray service through the daily papers was given to the growers of Berkeley and Jefferson counties this year by Mr. E. C. Sherwood, Extension Plant Pathologist. Mr. Sherwood spent his time in the large commercial apple section studying disease conditions and advising growers relative to spray work.

South Carolina.

The following delayed report was received from Mr. Geo. P. Hoffman, Extension Horticulturist, Clemson College, South Carolina:

Four field men, Geo. P. Hoffman, A. E. Schilletter, C. A. Owens, and R. Farmer, were engaged in handling the work of the State - Spartanburg, Aiken and Florence districts respectfully. The most important work done was in connection with home and commercial orchards, sweet potato curing houses and related sweet potato work, home gardening, special trucking, and special cropping.

The orchard work consists of advice in the selection of an orchard site; encouragement in the cooperative purchases of nursery stock and other supplies; and organizing at the proper season "Orchard Week" at which time intensive work is done in counties along orchard lines,such as holding meetings, giving lectures and demonstrations in planting, pruning, spraying and general orchard management. During the year 257 new orchards were established with a total of 212,700 trees. These trees were purchased cooperatively at an average cost of 12¢ per tree whereas if they had been purchased in the

usual way they would have cost 17¢ each with less assurance of desirable varieties. Cooperative buying in this case saved $10,635.00. During the year the owners of 752 orchards were receiving advise either directly or indirectly through the machinery of this project.

It is interesting to note the gradual development around and resulting from the home orchard demonstrations. D. E. Good, of Walhalls, one of the first orchard demonstrators, sold from 500 apple trees a sufficient quantity of fruit to give him a net return of $1,863.00. This demonstration was of double value because of the fact of its proving that apples can be successfully grown on a commercial scale in the vicinity of Walhalls, also serving as an object lesson - results of 11 years' work establishing a permanent industry.

Commercial peach planting has been especially active in South Carolina during the period covered by this report. The extent of commercial development extends through the sand hills from Augusta, Georgia, to Hamlet, North Carolina. Sand hill land that only a few years ago sold for 50¢ per acre now produces first quality peaches and offers a foundation for a commercial industry. Local associations were formed at McBee, Aiken, Grambling, and Wedgefield. Members of these associations with other prominent peach growers formed the South Carolina Peach Growers' Association.

The sweet potato work consisted of campaigns staged for the planting of one variety of disease free seed, seed inspection, bedding, and seed treating, and harvesting and field grading demonstrations. The increase in the storage house capacity was more than 100% and the results obtained through our campaigns was most outstanding. We received reports on all of the houses, 180 Government standard and approximately 100 remodled with an aggregate of 435,650 bushel capacity, and the maximum loss resulting from rot in any case was less than 5%. The value of the stored crop was estimated at $435,650.

Our vegetable work consisted of home and market gardening and mill village gardening, and special cropping. The gardening work was handled in a cooperative way with the home demonstration department and the mill village Welfare Workers. We staged campaigns through "Garden Week" and garden schools, which work was followed up through the use of gardening lessons sent to the respective clubs on the 25th of the previous months. Through this method we reached 2,007 gardeners and in many instances the garden carried a few new vegetables that were previously unknown.

Our special cropping consisted in assisting with the growing of fall beans, English peas, asparagus, and fall Irish potatoes. In this work we assisted with the growing of 462 plantings, 28 plant growers and organized 4 vegetable associations. The fall bean work was an outstanding success and will spread over the entire trucking section.

Wisconsin.

Prof. J. G. Moore, Horticulturist, sent the following notes on fruit extension work in Wisconsin:

Extension work in fruit lines in Wisconsin is carried on only in counties having county agents, or in cooperation with teachers of agriculture

in high schools. The general plan is to do intensive work in a county for 2 years, during which time the principal object is to familiarize the county agent sufficiently with the details that he will be able to continue the work when the fruit specialist has moved to another county. Closely associated with this object is that of creating a wider interest in the county in better orchard practice. Owing to the limited force it is not possible to adhere rigidly to the intensive 2-year program, as the demands made upon the other county agents for orchard work make it imperative to give them such assistance as possible.

Owing to the nature of the problem it is possible to give assistance in pruning to a greater number than it is with spraying, although the number of requests for help are usually in the reverse order. The county agent is made responsible for the arrangement of the initial meeting, which is a pruning demonstration. The aim is to get only a small but intensely interested group together and to spend from one-half day to a day doing actual pruning in their orchards. At the start the specialist outlines the problem and describes and demonstrates how the results are to be attained. After working on 2 or 3 trees, differing more or less in the treatment needed, the men are set to work under supervision. If an entire day is devoted to the work, 2 to 4 orchards are visited and work done in each. This plan is based upon the theory that the best demonstration is the one which enthuses and develops a few men to the point where they are able to serve as leaders in their community, rather than to spread the efforts over a multitude, the majority of whom give no practical response and the rest are insufficiently trained to do effective work.

This is the opportune time to present the advantages of orchard spraying and the "spray ring" plan is presented. If there is sufficient interest a spray ring is organized. In counties in which intensive work is being done several rings are organized and the specialist plans to be present at each of the several sprayings. At the first spraying he demonstrates to the "operator" and county agent the proper methods of applying the spray. At future sprayings he merely checks up on how the work is being done and corrects any defects which he observes. In those cases in which intensive work is not done the county agent receives instruction at a "county agents' orchard school." The specialist keeps in touch with the county agent during the season notifying him when the proper time for an application has arrived. Wherever possible the specialist visits these "rings" during spraying operations. Spray rings consist of from 5 to 10 members, 1 of whom is appointed "operator" or manager. He purchases materials and does all the spraying, charging upon a basis agreed upon. This plan is much more satisfactory than for each member to do his own spraying.

Although the orchards sprayed are of the farm orchard type, at least so far as management is concerned, in nearly all cases the question of marketing of surplus fruit usually comes up. In fact our experience has been that the most common reason given for not properly caring for the farm orchard is that there will be no market for the fruit. A part of the work, therefore, consists in helping dispose of the fruit. It is not always possible to solve this problem in the same way. Probably the most effective plan is cooperative marketing. An "agent" is selected from the members of the ring, the crop is pooled and the exclusive sale is given to the agent. He determines whether the grade is right and all other questions relative

to the marketing of the crop. It seems despotic at first, but it is necessary and successful. Where larger quantities are to be handled the fruit from all the rings in a county may be pooled and the county agent or other person appointed selling agent.

Other features possible under this cooperative plan are, exhibits atlocal fairs advertising the possibility of securing good fruit locally, greater efficiency in interesting local merchants in handling high grade local fruit, the elimination of cut throat competition among local growers, and the possibility of filling large orders which could not be handled by the individual growers. In one instance the growers of one county agreed upon a distribution of the local markets to good advantage.

The success of the work in Wisconsin has been made possible largely through the fine cooperation of the county agents and agricultural teachers in the high schools. The extent of the work which may be done is limited only by the ability to secure funds and men to meet the urgent requests for assistance.

Demonstration work discussed at the A. S. H. S. meeting in Boston.

The Boston meeting of the American Society for Horticultural Science was one of the best this society has held, both in point of attendance and the number and grade of papers presented. About one-half of one session was devoted to extension papers. Prof. Van Meter brought out the advantages and necessity for long time demonstrations such as are being conducted in certain orchards in Massachusetts. A very apt remark was - "Only by repeated blows at the same spot can we drive home the real value of good management." Prof. H. F. Tompson discussed the close cooperation necessary between the extension and investigational work in vegetable gardening. Prof. Brock told about the strawberry club work in Illinois in organizing 736 boys and girls into clubs planting 227,000 strawberry plants in 1922. Prof. Williams was not present and did not send his paper on fruit demonstration work in Kansas.

Prof. Close advised tackling the most important needs of a state in a big way so results would be worth while. He reviewed some of the striking projects under way and outlined new work for the future, especially in cooperation with nutrition specialists and home demonstration agents. His address will be mimeographed and sent to all horticultural extension workers on our mailing list.

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The February number of the Extension Horticulturist will be devoted to reports from the following group of states: Minnesota, Iowa, Missouri, Kansas, Nebraska, South Dakota and North Dakota. Of the central group we failed to hear from the workers in Ohio, Indiana, Illinois and [illegible] for this issue. This was doubtless due to the time being the holiday season and we will include reports from these states later, if received. We also plan to include a few home orchard and garden suggestions in the February number.

W. R. Beattie, Extension Horticulturist.

C. P. Close, Extension Pomologist.